Lake Steward

The newsletter of the WLR Lake Stewardship program Vol. 10, No. 2 Spring 2003

Resources for Lakeside Living

Where Did You Get the Money to Do *That*?

Acres of undeveloped land along Beaver Lake are now protected, Lyon Creek has been landscaped with native vegetation and the noxious aquatic weed purple loosestrife is less evident than last year at Lake Kathleen. How did those communities do it? More importantly, how did they fund it?

Unknown to many community members is the fact that the King County Department of Natural Resources and Parks administers six different types of grants for the sole purpose of helping residents protect and improve their community through environmental stewardship. Last year a total of 57 grants, approximately half of all applicants, were awarded. While individual grant projects varied widely, the common theme was community support.

For lakeside communities, two grants are especially worth noting: the aptly named WaterWorks and Splash grants. The WaterWorks grant provides up to $50,000 in funding for water quality and water-dependent habitat projects. Splash provides up to $15,000 in funding for water quality education projects.

Splash Grants
Small Change - Up to $2,000
Booster - $2,000-$5,000
Competitive - $5,000-$15,000

WaterWorks Grants
Small Change - Up to $2,000
Booster - $2,000-$5,000
Competitive - $5,000-$50,000

Grant Exchange
http://dnr.metrokc.gov/wlr/pi/grants.htm

Removing purple loosestrife (above) improves lakeside habitat.

Each grant is available in three categories: "small change," "booster," and "competitive." Small change grants award up to $2,000 and booster grants award between $2,000 and $5,000; both categories have no application deadline. The competitive grants fund projects between $5,000 and $50,000 and are awarded twice a year; applications are due April 1 and August 1.

Do grant applications and deadlines sound intimidating? With help from Grant Coordinator Ken Pritchard, they're not. The grant application process has become very efficient and easy through the new Grant Exchange Web site. This comprehensive online resource allows visitors to learn more about what grants are available, how to write a grant and who to contact for more information. A grant resource fair and workshops are being planned for this summer and fall.

So take a good look around. Is there a noxious weed that needs to go? Would your community benefit from a water quality education program? Let us help you with ideas and guide you through the process. Contact Beth Cullen (see next page) at 206-263-6242 or beth.cullen@metrokc.gov.

What's Inside. . .

Introducing...

Beth Cullen, the Lake Stewardship Program's newest staff member, is a Seattle native who grew up blocks away from Lake Washington and received her Bachelor of Arts in Environmental Policy and Planning from Western Washington University.

After college, Beth spent two years with AmeriCorps, travelling the country working on a variety of projects, including the Massachusetts Community Water Watch. It was in working with the community on water quality issues that she found her niche and chose to pursue a Masters of Environmental Management at Yale University's School of Forestry and Environmental Studies.

After four years away, she eagerly returned to the Northwest where she joined a Snohomish environmental consulting firm. In March she accepted the position of Water Quality Planner with the King County Department of Natural Resources and Parks.

"I'm really enjoying getting out into the community again and meeting people," said Beth. If you have any lake questions, need assistance with special projects or have an idea to share, contact Beth Cullen at 206-263-6242 or beth.cullen@metrokc.gov.

Community Update

Spring Lake Community Battles Noxious Weeds

In the summer of 2001, residents of the Spring Lake community (between Renton and Maple Valley) became increasingly concerned about four species of noxious aquatic weeds that threatened to degrade the habitat and recreational value of their lake.

Lakeside residents contacted the King County Lake Stewardship program staff for advice on how best to tackle the problem before the weeds got out of control.

Last summer, our staff worked with the Spring Lake Community Club in a series of meetings. Through this work, the Club elected to develop a plan and apply for grant money to begin control efforts of four aquatic weeds: milfoil, purple loosestrife, fragrant pond lily (white or pink flowers) and yellow flag iris.

Milfoil

Spring Lake

The Club and Lake Stewardship staff collaborated to develop an Integrated Aquatic Vegetation Management Plan (IAVMP). The IAVMP will guide implementation of the weed control project through a combination of herbicide treatments, manual removal methods and ongoing monitoring and spot control.

After the plan was approved by the Washington State Department of Ecology (DOE), King County submitted a grant proposal for project funding.

Spring Lake residents and County staff are excited to report that DOE has funded the grant proposal, and weed control begins this summer. Congratulations to the Spring Lake community for their collaboration and stewardship efforts!

Noxious aquatic weeds are often a threat to lake health. To find out more about controlling noxious weeds in your lake and resources available, contact Michael "Murph" Murphy at 206-296-8008 or michael-wlr.murphy@metrokc.gov.

Lake Ecology

Have You Seen This Snail? It's a Chinese Mystery

The Chinese mystery snail's greenish-brown shell is placed next to a dime to show its size.

The Chinese mystery snail (*Cipangopaludina malleata* var *chinensis*) was first documented in the Pacific Northwest more than forty years ago, but very little has been written about its introduction nor have its impacts on native snails or ecosystems of local lakes been studied since then. The Chinese mystery snail was reported living in Seattle's Green Lake in the 1960s, in addition to a lake in the San Juan Islands.

Recently, it has been identified in several other lakes in King County, including Wilderness, Spring, Desire and Sawyer, leading to questions about how widespread it may actually be in our region.

There are anecdotal reports as far back as 1892 that the snail was offered for sale as a food item in Chinese markets in both San Francisco and Vancouver, BC. However, it is equally likely that it was introduced into our waters from hobby aquariums emptied into nearby ponds and lakes. The snails are offered in pet stores for controlling algal growth on the glass walls of aquariums and for reducing the accumulation of litter by their habit of feeding on bottom detritus.

The Chinese mystery snail is popular with hobbyists because their large size makes them very conspicuous, as well as less likely to be eaten by pet fish (especially compared with much smaller native freshwater snail species).

Their size also makes them easy to see in the shallow water of lakes. They appear to prefer the warmer water near shorelines and can be seen, when the water is clear, inching along the bottom looking for food.

In addition to their size, other identifying characteristics include the smooth outside of the thin shell, its greenish-brown color, and a hard covering of the shell hole called the operculum. The Japanese mystery snail (*Cipangopaludina japonica*), a similar species about which even less is known, may also be present in some local lakes. It looks very similar, but can be distinguished by subtle differences in shell characteristics.

While they may be eaten routinely in some parts of Asia (one Web site offers a recipe for Mystery Snails in Wine Sauce), the lack of information about the snail's hosting of parasites should make the would-be gourmet pause before gathering and cooking them. In their native habitat, they are known to harbor parasites such as flukes and schistosomes (the parasite group responsible for swimmer's itch around here). Eating them is definitely not recommended until more is known.

Describing the impact these snails have had on native species may prove a difficult task. Various local lakes have been managed in the past for fish communities, sometimes with little known about the effects that management techniques might have on other animals living in the water. For example, several lakes were treated with toxic chemicals such as rotenone to kill off nuisance fish species, which could have also affected other animal species. The introduction of the Chinese mystery snail might have been into environments that were already under extreme stress.

If you see a snail in a King County lake that looks like the one pictured here, please report it to the Lake Stewardship Program. This will help us estimate the snail's population and document the lakes where it has been located. Please contact Sally Abella at 206-296-8382 or sally.abella@metrokc.gov.

Lake monitors report

Survey Says: No Significant Difference in Daily vs. Weekly Rain Gauge Data

From April to August 2002, Lake Monitor volunteers from Angle Lake in SeaTac, Lake Kathleen near Renton, and Lake Joy northeast of Carnation, compared two methods of measuring rainfall.

Each installed two rain gauges side by side – one for recording daily precipitation and one for weekly accumulation.

Data from each gauge was then compared to identify whether or not there was a significant difference in the amount of rain collected using the two methods. The results: statistically, there is no significant difference.

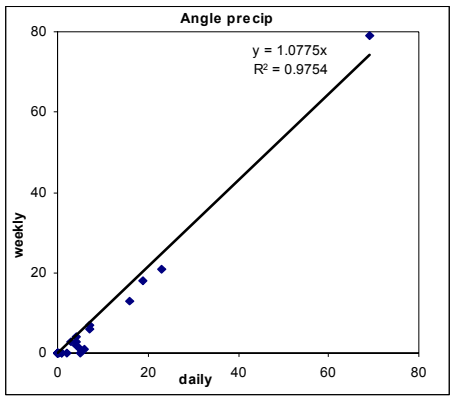
This finding suggests that volunteers might record precipitation weekly rather than daily in some cases.

All three lakes participated in the exercise from April through August (the region's "dry season"). The results are summarized in the chart below. Although the difference between the two methods was sometimes as much as 10mm a week (possibly due to evaporation from the weekly gauge), statistical analysis showed the differences to be insignificant overall. This means that data gathered using either method can be compared.

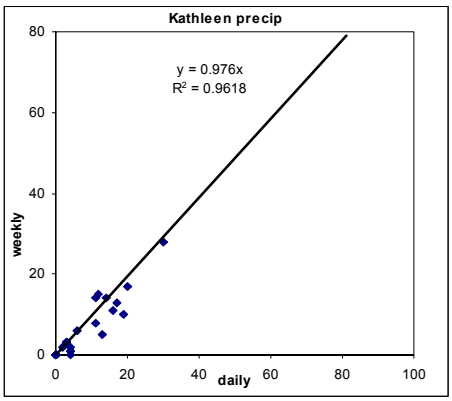
Diane and Alden Chace, volunteers at Angle Lake, continued the comparison study through the winter. In comparing the data from their two gauges from September through March (the "wet season") we saw an even tighter correlation between the two, with the greatest difference being a mere 4mm (attributed to less evaporation from the weekly rain gauge due to cooler weather).

Special thanks to volunteers Diane and Alden Chace, Bob and Sam Charles, and Keith Lanan for participating in the study.

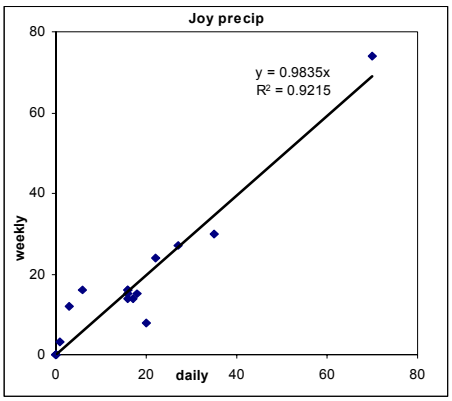
Precipitation at Angle Lake



Precipitation at Lake Kathleen



Precipitation at Lake Joy



Upcoming Events

Dig In! Volunteers needed for hands-on restoration projects. Cavanaugh Pond, Renton: May 3, & June 7. Cold Creek Natural Area, Woodinville: June 14. Sammamish Releaf at Marymoor Park, Redmond: May 24 & June 21. Red Town Meadow Project, Cougar Mountain: May 24, June 28, July 26, August 23, September 27 & October 25. Contact: Tina Miller, 206-296-2990.

Honey, I Shrunk the Lawn! Learn how to shrink your lawn and replace it with a wildlife friendly, native plant landscape. Part of the Natural Yard Care program. Federal Way: May13; Kirkland: May 20; Shoreline: June 17. Contact: Greg Rabourn, 206-296-1923.

West Nile Virus: What You Should Know

West Nile Virus Hotline
206-205-3883

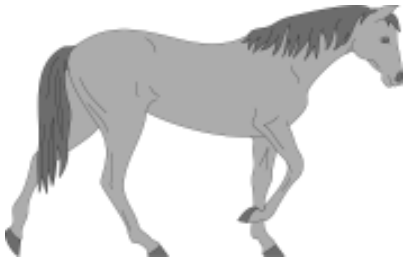
West Nile Virus Online
www.metrokc.gov/health/westnile/

West Nile virus (WNV) has been making headlines across the nation and raising questions in all of our minds. Though health experts do not expect WNV to be a health emergency in King County, knowing some basic information can be your best safeguard. Following are some basic facts and tips prepared by Public Health – Seattle & King County (Public Health) and the King County Department of Natural Resources and Parks (DNRP). More information is available online or by calling the Hotline.

West Nile virus, previously found in Africa, West Asia and the Middle East, was discovered in the United States in 1999. WNV can cause West Nile fever, a mild illness that occurs in about one in five persons who are infected. In less than one percent of persons infected Encephalitis and meningitis, more serious illnesses, can occur.

WNV can infect humans, birds, mosquitoes, horses and other animals but can not be transmitted directly from person-to-person or from animal-to-person. Mosquito bites transmit the virus to humans, but only if the mosquito has fed on an infected animal. WNV appears to be rare in dogs and cats, and chickens are resistant as well. However, horses are susceptible, therefore, owners are encouraged to contact their veterinarian about possible immunization and control mosquitoes where possible.

To assist WNV surveillance, residents should report finding dead crows, ravens, jays, magpies, and raptors (eagles, hawks, and owls) by calling 206-205-4394. Since crows are particularly susceptible to WNV, Public Health may retrieve and test dead crows for the virus on a selective basis.



Horses are susceptible to WNV.

Reducing the opportunity for mosquito bites is the easiest and best precaution against WNV you can take. You can do this by reducing mosquito habitat and preparing your home and yourself.

Mosquitoes will lay their eggs in still or standing water – even as little as a few ounces. So removing any standing water on your property and around your home significantly reduces mosquito-breeding habitat.

Mosquitoes are most active and likely to bite at dusk and dawn. While outdoors during these times wear long sleeve shirts, long pants, a hat and consider wearing an insect repellent. Inside your house, ensure that windows and door screens are secure. While you can not eliminate all mosquito habitat, it is important to remember that not all mosquitoes are carriers of the virus. Please report mosquito problems to Public Health at 206-205-4394.

DNRP is considering the use of a mosquito control method that would apply natural larvicides in limited and targeted areas. One possible larvicide being considered is based on a variety of *Bacillus thuringiensis israelensis (Bti)*, the preferred control technique also common in organic gardening.

King County will not do aerial application unless faced with a public health emergency, which is unlikely, and we know that widespread chemical controls are not the answer.

It is important to remember that Wetlands reduce flooding, recharge groundwater, improve water quality and support animal and plant habitat. So even though wetlands and lakes seem like obvious mosquito breeding habitat, they also abound with natural predators of the mosquito and are critical to the health of our environment.

Reduce standing water on your property by tipping out old tires, planters, and other containers.

Ask Dr. Lakenstein

I live near a King County lake and keep hearing about how impervious surfaces are negatively affecting the lake's water quality. Can you explain what this means?

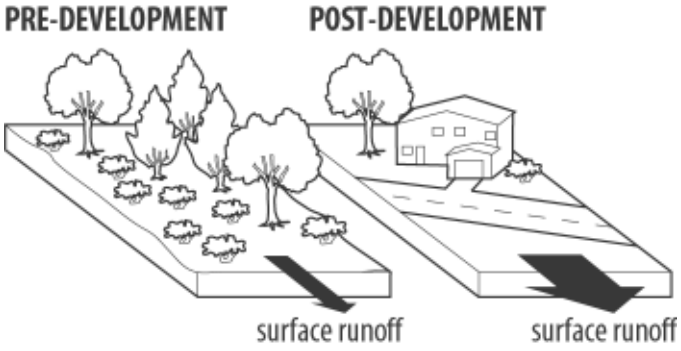
Signed,
Curious About Impervious

Dear Curious:
Impervious surfaces are areas that no longer allow water to naturally seep into the ground. For example, roads, sidewalks, patios, rooftops, parking lots, and even compacted soil (and sometimes even turf) are all considered impervious surfaces. Stormwater running off lots of impervious surface can create problems.

When water can't sink into the soil slowly, it flows above ground quickly, draining several ways: directly into waterbodies like your lake, to non-impervious surfaces where it can infiltrate into the ground, or to catchbasins that pipe the stormwater into the closest waterbody. When heavy rainstorms occur, this runoff can lead to temporary flooding problems downstream and headaches for homeowners.

Runoff is also a major contributor to water pollution. As water flows over impervious surfaces it can collect other substances like oil and fertilizers, carrying these pollutants directly into your lake. The amount of impervious surface and the types of land use activities that surround your lake, as well as the natural characteristics of the lake itself, can contribute to water pollution.

While impervious surfaces typically increase with development and population growth, through analysis, improved technologies, and better use of land, its impact on water quality can be decreased.



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